REMARKS

In response to the non-final Office Action of January 19, 2010, claims 1, 10, 13, 16, 17, 19-22, 27, and 32-34 have been amended.

Claims 1, 10, and 27 have been amended to recite that the transmission or reception of multicast data is continuous through the switch. Support for this amendment can be found in the application as filed, including at page 4, lines 32-34 and page 9, lines 7-11.

Claims 1, 16, 17 and 34 have been amended to recite a transceiver. Support for this amendment can be found in the application as filed, including Figure 4 (411 and 421) and page 15, lines 25-27 and page 6, lines 4-6.

Claims 13 and 22 have been amended to recite a processor readable medium, stored with code, which are executed by a processing component of a mobile station and mobile communication network, respectively.

Claims 1, 10 and 27 have also been amended to recite said multicast data. Claims 10, 17, 19-21, 32, and 33 have been amended to use language to insure non-means plus function terminology is used. The words "transmitter" and "receiver" are supported by the disclosed "transceiver" as shown in Figure 4.

Claim Rejections - 35 USC §103

At section 2 and in the Response to Amendment section, claims 1 and 2 are rejected under 35 USC §103(a) as unpatentable over newly cited US patent 6,529,740, Ganucheau, in view of US patent 5,572,678, Homma, et al (hereinafter Homma).

With respect to claim 1, it is asserted that Ganucheau teaches a method comprising the actions recited therein, but does not expressly call for "sending a request to said mobile communication network to transmit said multicast data via a point-to-point channel in case said determined link quality lies below a given link quality". The Office asserts that Homma teaches sending a request to said mobile communication network to transmit said multicast data via a point-to-point channel in case said determined link quality lies below a given link quality.

As Applicant set forth in the Amendment in Response to Final Office Action filed on December 14, 2009, Ganucheau is directed to a group radio with subscriber-radio controlled channel selection. In particular, Ganucheau is directed to a "point-to-multipoint (PTM) communication system (20) that includes a cellular radio infrastructure

(22) having base stations (32) implemented in satellites (34) placed in low earth orbits (38). PTM subscriber radios (24) share common cellular radio infrastructure (22) multipoint channels (52) to engage in a common PTM communication session while the cellular radio infrastructure (22) also conveys point-to-point communications. A group control computer (28) constructs a channel list (126) which is downloaded to PTM subscriber radios (24). The channel list (126) identifies multipoint channels (52) and indicates when and where the channels (52) are active. Without emitting transmissions to the cellular radio infrastructure (22), PTM subscriber radios (24) autonomously switch to new multipoint channels (52) in response to their current time and location and the channel list (126)." (Ganucheau, Abstract and Figure 1)

It is therefore clear that in Ganucheau, the switching is between point-to-multipoint channels, but is not switching from a multicast channel to a point-to-point channel as set forth in amended claim 1.

Homma is directed to a data communication method for transmitting a large amount of data via a network, such as a LAN to which a plurality of stations or terminals are connected, through a simplified processing procedure. The large amount of data is transmitted from a sender station to a plurality of receiver stations by utilizing a connectionless communication service while inter-station reception acknowledging/retransmitting processing are performed by using a connection-oriented communication service. The large amount of data to be transmitted is divided into a plurality of blocks, and inter-block delay time is set on the basis of station status factors, such as a permissible load increase rate of the CPU of the individual stations (Homma, Abstract). The Office specifically relies on column 5, line 34 through column 6, line 7 of Homma. As there indicated, Homma only discloses that a mobile station transmits a retransmission request in case of a drop-out of an information frame. For example, it is stated in that during multicast transmission, "there may occur drop-out or loss of the information frame due to a communication error because the multicast transmission is lacking of procedure, as mentioned previously. Upon occurrence of such drop-out of information frame, the corresponding information frame must be sent again." Thus, if there is a drop-out or loss, the transmitting of the frame must start over, so that the frame can be sent again. It is therefore clear that Homma is directed to the idea that the original packet data are transmitted via a multicast channel and only retransmission of this original packet data is via a point-to-point channel.

As amended, claim 1 recites sending a request to a mobile communication network to switch and thereafter continue transmitting multicast data via a point-to-point channel, in case said determined link quality lies below a given link quality so that transmission of said multicast data is continuous through the switch. This aspect of the claim 1 is clearly absent from Homma, as well as Ganucheau. In Homma, when a drop-out of information occurs using multicast transmission, the information must be retransmitted or "sent out again" when point-to-point transmission is utilized (Homma, column 5, line 34-column 6, line 7). Thus, rather than provide a continuous transmission of multicast data before and after the switch in channel, Homma discloses only using point-to-point transmission once a failure occurs in the multicast transmission, and then restarting the transmission and sending out again the frames that failed to transmit properly.

Therefore, because the combination of Ganucheau and Homma does not disclose or render obvious each feature of claim 1 as amended, it is respectfully submitted that amended claim 1 is not suggested by Ganucheau further in view of Homma and is in allowable form.

Dependent claim 2 is believed to be allowable at least in view of its dependency from claim 1.

At section 3 of the Office Action, claims 5 and 6 are rejected under 35 USC §103(a) as unpatentable over Ganucheau further in view of Homma further in view of US patent 6,360,076, Segura, et al. Claims 5 and 6 both ultimately depend from amended claim 1 and are believed to be allowable at least in view of such dependency.

Referring now to section 4 of the Office Action, claims 10, 12, 23, and 27 are rejected under 35 USC §103(a) as unpatentable over US patent application publication 2003/0220119, Terry (hereinafter Terry I), in view of Homma.

Although independent claim 10 is rejected using Terry I in place of Ganuscheau, Homma is applied in this rejection in the same manner as it is applied in the rejection of claim 1. Because claim 10 has been amended similarly to claim 1, it is respectfully submitted that for similar reasons as presented above with respect to claim 1, neither Homma nor Terry teaches this feature of claim 10.

It is therefore respectfully submitted that independent claim 10 as amended is distinguished over Terry I in view of Homma, and is in allowable form.

Independent apparatus claim 27 corresponds to independent claim 10, but written using means plus function terminology, and has been amended in a manner similar to claims 1 and 10. It is therefore also considered to be distinguished over Terry I in view of Homma and in allowable form.

Dependent claims 12 and 23 are also considered to be allowable at least in view of their dependency from claim 10.

At section 5, claim 35 is rejected under 35 USC §103(a) as unpatentable over Terry I further in view of US patent 6,810,236, Terry (hereinafter Terry II). It is asserted that Terry I discloses a communication component (32) configured to receive from a mobile station measurement results for link quality related measurement on a network for transmitting multicast data to said mobile station; a processing component (30) configured to estimate a link quality of a point-to-multipoint channel while multicasting on a point-to-point channel to said mobile station, wherein the processing component is configured to estimate said link quality of said point-to-multi-point channel based on said measurement results for said point-to-point channel; and a processing component (46) configured to order said mobile station to switch from said point-to-point channel to said point-to-multipoint for receiving said multicast data in case said estimated link quality of said point-to-multipoint channel reaches a required link quality. Applicant respectfully disagrees.

The processor 30 is described only in paragraph [0025] of Terry I, where it states: "[a] channel quality measurement processor 30, at the Node-B 18, recovers the channel quality measurements/information from all the users of the HS-DSCH." From this sentence, there is no suggestion of a processing component configured to estimate a link quality of a point-to-multipoint channel while multicasting on a point-to-point channel to a mobile station, and configured to estimate the link quality of the point-to-multipoint channel based on said measurement results for said point-to-point channel. Therefore, Applicant respectfully submits that the Office has failed to show that each component of the apparatus of claim 35 is suggested or disclosed in the prior art.

Furthermore, Applicant notes that independent apparatus claim 35 is an apparatus claim corresponding to independent method claim 16, which the Office held allowable in section 15 of the Office Action of September 21, 2009, and which is currently not subject to any art rejection. At page 11 of the Office Action of September 21, 2009, the Office states:

"No prior art references or combination of prior art references in combination disclose or suggest the combination of limitations specified in the independent claims including: 'requesting and receiving from a mobile station measurements results for link quality related measurement on a point-to-point channel which point-to-point channel is currently used by said network for transmitting multicast data to said mobile station; in case said estimated link quality of said point-to-multipoint channel reaches a required link quality, ordering said mobile station to switch from said point-to-point channel to said point-to multipoint channel for receiving said multicast data'."

These features that the Office found not to be disclosed in the prior art are also recited in apparatus claim 35.

Therefore, because apparatus claim 35 recites similar features as method claim 16, which the Office finds allowable under 35 U.S.C. 103, and because the Office has failed to present a *prima facie* case of obviousness of claim 35, Applicant respectfully submits that claim 35 is in allowable form and is also not disclosed or suggested by any combination of the references.

At section 7, claims 13 and 22 are rejected under 103(a) as being unpatentable over Ganucheau, in view of Homma, further in view of Ramaswamy (U.S. Patent No.6,571,112). Because claim 13 is dependent on claim 1, which Applicant has shown to be in allowable form, and because claim 22 is dependent on claim 17, which the Office has stated is allowable, it is respectfully submitted that at least in view of this dependency, these dependent claims are in allowable form.

Claim Rejection- 35 U.S.C. 112

At section 9 of the Office Action, claims 1-9, 10-13, 23, 30-32 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, it is asserted that "transmitting multicast data" is indefinite. Applicant has amended claims 1, 10 and 27 to recite said multicast data is transmitted via a point-to-point channel and that the transmission of said multicast data is continuous through the switch. Therefore, as currently presented, the claims recite that

multicast data is at first being transmitted on a point-to-multipoint channel, and then the channel is switched, so that the multicast data is then transmitted on a point-to-point channel. However, the transmission of the multicast data is continuous, so although the same multicast data sent is transmitted on both channels, a particular multicast datum which was transmitted on the point-to-multipoint channel is not retransmitted on the point-to-point channel after the switch.

Therefore, it is respectfully submitted that amended independent claims 1, 10 and 27, as well as their dependent claims, are not indefinite under 35 U.S.C. § 112, second paragraph and are in allowable form.

Claim Rejections- 35 U.S.C. 101

At section 11 of the Office Action, claims 1-9, 13, 16-18, 22 and 34 are rejected under 35 U.S.C. 101 because it is asserted the claimed subject matter is directed to a non-statutory subject matter.

Independent method claims 1, 16, 17 and 34 are rejected because it is asserted that the methods can be implemented as software code and because no physical structure performs a significant step. Applicant respectfully disagrees.

A claimed process is patent-eligible under §101 if: (1) it is tied to a particular machine *or* apparatus, or (2) it transforms a particular article into a different state or thing. *In re Bilski*, 545 F. 3d 943, 88 USPQ2d 1385 (Fed. Cir. 2008) (en banc), *cert. granted*, 129 S.Ct. 2735 (2009). The methods of claims 1, 16, 17 and 34 are tied to a mobile station and a mobile communication network. As such, the methods in each of these claims are tied to particular apparatuses. Although the specification makes reference to software and dependent claims 13 and 22 recite processor readable mediums, the method claims do not recite software code. Therefore, Applicant respectfully submits that method claims 1, 16, 17 and 34 are tied to particular machines, a mobile station and mobile communication network, and are therefore directed to statutory subject matter.

In addition, claims 1, 16, 17 and 34 have been amended to recite that multicast data is transmitted to or from a mobile station via a transceiver. As shown in Figure 4, the transceivers are physical structures comprised in the mobile station and mobile communication network. Therefore, because they are tied to particular structures, the methods of claims 1, 16, 17 and 34 as amended, and their dependent claims are directed to statutory subject matter.

It is further asserted that dependent claims 13 and 22 are rejected because they recite processor readable medium that could be interpreted as transitory medium. Applicant respectfully submits that the processor readable medium of clams 13 and 22 are not transitory mediums. The processor readable mediums are shown as structural elements in Figure 4 as elements 413 and 423. Therefore, it is respectfully submitted that dependent claims 13 and 22 are directed to statutory subject matter.

For the foregoing reasons, it is respectfully submitted that claims 1-9, 13, 16-18, 22 and 34 are directed to statutory subject matter and are therefore allowable under 35 U.S.C. 101.

Allowable Subject Matter

At section 12 of the Office Action, it is stated that claims 19-21, 25, 29, 33 and 36 are allowed. The amendment to claims 19-21 is only to avoid interpretation of claim elements as means plus function elements, and therefore these claims as amended should still be considered allowed. It is further stated at section 16 that claims 30-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In view of the foregoing, it is respectfully submitted that the present application as amended is in condition for allowance and such action is earnestly solicited.

The undersigned respectfully submits that no fee is due for filing this Amendment. The Commissioner is hereby authorized to charge to deposit account 23-0442 any fee deficiency required to submit this paper.

Respectfully submitted,

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